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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/598,571	12/07/2007	Sel B. Colak	GB040057US1	7304

24737 7590 08/19/2010
PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
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EXAMINER	
TAYLOR, BARRY W	
ART UNIT	**PAPER NUMBER**
2617	
MAIL DATE	**DELIVERY MODE**
08/19/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/598,571	COLAK ET AL.	
	Examiner	**Art Unit**	
	Barry W. Taylor	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _23 June 2010_.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-13_ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-13_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _05 September 2006_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 1-3, 5, 7-10, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaki et al (2003/0124976) found in PCT search report (paper dated 9/15/2006) in view of Wiedeman et al (5,859,874 hereinafter Wiedeman).

Regarding claim 1. Tamaki teaches a method for exchanging signals via nodes (11-14) and comprising the steps of

at a source node (11), processing a source signal (21,22) and transmitting the source signal (21,22) to a destination node (12) via a first signal route comprising an intermediate node (13,14) and via a different second signal route, with at least one

signal route being a wireless signal route (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

at the destination node (12), receiving a first destination signal (31) corresponding with the source signal 21,22) and having followed the first signal route (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

at the destination node (12), receiving a second destination signal (32) corresponding with the source signal (21,22) and having followed the second signal route (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

at the destination node (12), processing and correlating the first and second destination signal (31,32) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121); and

in dependence of a correlation result, adjusting a process for processing a signal at a node (11-14) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073,

0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

Regarding claim 2. Tamaki teaches wherein the process comprises the processing at the destination node (12) (abstract, paragraphs 0052, 0058, 0059-0060, 0064, 0072-0090).

Wiedeman also teaches processing at the destination node (abstract, col. 2 line 59 - col. 3 line 10, col. 5 line 38 - col. 6 line 11, col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65).

Regarding claim 3. Tamaki teaches at the destination node (12), transmitting, in response to the correlation result, a control signal to the source node (11) for the adjusting of the process; wherein the process comprises the processing at the source node (ii) (abstract, paragraphs 0014, 0016, 0017, 0027, 0049, 0052, 0058, 0059, 0060).

Wiedeman also teaches sending control information back to repeaters and transceivers in order to control future transmissions (col. 5 line 38 - col. 6 line 14, col. 12 lines 41-65, col. 13 line 20 - col. 14 line 33, col. 16 lines 1-23).

Regarding claim 5. Tamaki teaches at a node (11-14), running a learning algorithm for the adjusting of the process (see paragraphs 0045, 0072-90 wherein using an algorithm is disclosed).

Wiedeman also teaches a learning algorithm (col. 5 line 57 - col. 6 line 14, col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 13 line 5 - col. 14 line 33, col. 15 lines 40-67, col. 16 lines 1-23).

Regarding claim 7. Tamaki teaches at the destination node (12), further processing at least two subsignals of at least one destination signal (31,32), which subsignals have followed subroutes of at least one signal route, with these subroutes being different from each other (abstract, paragraphs 0052, 0058, 0059-0060, 0064, 0072-0090).

Wiedeman also teaches at the destination node (12), further processing at least two subsignals of at least one destination signal (31,32), which subsignals have followed subroutes of at least one signal route, with these subroutes being different from each other (abstract, col. 1 lines 5-12, col. 2 line 59 – col. 3 line 41, col. 5 lines 38-67, col. 7 lines 50-62, col. 12 lines 41-65, col. 15 line 40 - col. 16 line 23).

Regarding claim 8. Tamaki teaches a destination node comprising

a receiving unit (91-95) for receiving a first destination signal (31) corresponding with a source signal (21,22) and having followed a first signal route comprising an intermediate node (13,14) and for receiving a second destination signal (32) corresponding with the source signal (21,22) and having followed a different second signal route, which source signal (21,22) has been processed and transmitted by a source node (11), and with at least one signal route being a wireless signal route (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a processing unit (87) for processing the first and second destination signal (31,32) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a correlating unit (89) for correlating the first and second destination signal (31,32), and, in dependence of a correlation result, adjusting a process for processing a signal at a node (11- 14) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073, 0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately

provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

Regarding claim 9. Tamaki teaches wherein the process comprises the processing by the processing unit (87) at the destination node (12) (abstract, paragraphs 0052, 0058, 0059-0060, 0064, 0072-0090).

Wiedeman also teaches processing at the destination node (abstract, col. 2 line 59 - col. 3 line 10, col. 5 line 38 - col. 6 line 11, col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65).

Regarding claim 10. Tamaki teaches a source node (11) comprising

a processing unit (87) for processing a source signal (21,22) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a transmitting unit (91-95) for transmitting the source signal (21,22) to a destination node (12); and a receiving unit (91-95) for receiving a control signal from the destination node (12) for adjusting the processing unit (87) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

which destination node (12) is arranged to receive a first destination signal (31) corresponding with the source signal (21,22) and having followed a first signal route comprising an intermediate node (13,14) and is arranged to receive a second destination signal (32) corresponding with the source signal (21,22) and having followed a different second signal route, with at least one signal route being a wireless signal

route, and which destination node (12) is arranged to process the first and second destination signal (31,32) and is arranged to correlate the first and second destination signal (31,32) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121) and is arranged to, in response to a correlation result, transmit the control signal to the source node (11) (abstract, paragraphs 0014, 0016, 0017, 0027, 0049, 0052, 0058, 0059, 0060).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073, 0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

Regarding claim 12. Tamaki teaches a network (figure 3) comprises one or more destination nodes, said destination node comprising:

a receiving unit (91-95) for receiving a first destination signal (31) corresponding with a source signal (21,22) and having followed a first signal route comprising an intermediate node (13,14) and for receiving a second destination signal (32) corresponding with the source signal (21,22) and having followed a different second signal route, which source signal (21,22) has been processed and transmitted by a source node (11), and with at least one signal route being a wireless signal route (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a processing unit (87) for processing the first and second destination signal (31,32) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a correlating unit (89) for correlating the first and second destination signal (31,32), and in dependence of a correlation result, adjusting a process for processing a signal at a node (11- 14) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073, 0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via

different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

Regarding claim 13. Tamaki teaches a circuit (90) for use in a destination node (12) comprising a receiving unit (91-95) for receiving a first destination signal (31) corresponding with a source signal (21,22) and having followed a first signal route comprising an intermediate node (13,14) and for receiving a second destination signal (32) corresponding with the source signal (21,22) and having followed a different second signal route, which source signal (21,22) has been processed and transmitted by a source node (11), and with at least one signal route being a wireless signal route, which circuit (90) comprises

a processing unit (87) for processing the first and second destination signal (31,32) abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

a correlating unit (89) for correlating the first and second destination signal (31,32) for, in dependence of a correlation result, adjusting a process for processing a signal at a node (11- 14) abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of

a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073, 0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

2. Claims 4, 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaki et al (2003/0124976) found in PCT search report (paper dated 9/15/2006) in view of Wiedeman et al (5,859,874 hereinafter Wiedeman) further in view of Larsson (2005/0014464).

Regarding claim 4. Tamaki in view of Wiedeman do not explicitly show at the intermediate node (13,14), receiving an intermediate signal (41,51) corresponding with the source signal (21,22); at the intermediate node (13,14), processing the intermediate signal (41,51); and at the destination node (12), transmitting, in response to the correlation result, a control signal to the intermediate node (13,14) for the adjusting of the process; wherein the process comprises the processing at the intermediate node (13,14).

Larsson also teaches a method and system for wireless communication networks using relaying (title, abstract). Larsson teaches the destination node (see 220 in figures 5a and 5b) transmits a control signal to relay nodes (see dashed lines in figures 5a and 5b) and can also transmit control signal to source node (see 210 in figures 5a and 5b) in order to inform relay stations to adapt/adjust its forwarding (paragraphs 0041, 0054, 0058-0059, 0060-0061, 0081, 0088, 0091, 0094-0095, 0102, 0110, 0114, 0118, 0119, 0121, 0128-0132). Larsson discloses that the receiving station (i.e. destination) is preferably used to inform relay stations since the receiving station has information on momentary effective SNR (paragraphs 0041, 0124). Larsson further teaches using fields in the control signal to pinpoint specific relays that should be incorporated, or is only allowed to be used, or must excluded or any combination thereof (paragraph

0126). Larsson further discloses that the receiving station (i.e. destination) is used to trigger changes in communication parameters (paragraph 0127) when it notices weakening SNR due to movement of the mobile. Larsson teaches the receiver (i.e. destination) can issue phase control messages to the whole group of relay stations (paragraph 0136).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the teachings of Tamaki in view of Wiedeman to use control loops as taught by Larsson in order to allow the receiving station (i.e. destination node) the ability to inform/trigger relay stations to adapt/adjust its forwarding as disclosed by Larsson.

Regarding claim 6. Tamaki in view of Wiedeman do not explicitly show at the source node (11), generating a label signal for labeling the source signal (21,22) and transmitting the label signal to the destination node (12) via a third signal route different from the first and second signal route; and at the destination node (12), detecting the label signal.

Larsson also teaches a method and system for wireless communication networks using relaying (title, abstract). Larsson teaches the destination node (see 220 in figures 5a and 5b) transmits a control signal to relay nodes (see dashed lines in figures 5a and 5b) and can also transmit control signal to source node (see 210 in figures 5a and 5b) in order to inform relay stations to adapt/adjust its forwarding (paragraphs 0041, 0054, 0058-0059, 0060-0061, 0081, 0088, 0091, 0094-0095, 0102, 0110, 0114, 0118, 0119, 0121, 0128-0132). Larsson discloses that the receiving station (i.e. destination) is

preferably used to inform relay stations since the receiving station has information on momentary effective SNR (paragraphs 0041, 0124). **Larsson further teaches using fields in the control signal to pinpoint specific relays that should be incorporated, or is only allowed to be used, or must excluded or any combination thereof (paragraph 0126).** Larsson further discloses that the receiving station (i.e. destination) is used to trigger changes in communication parameters (paragraph 0127) when it notices weakening SNR due to movement of the mobile. Larsson teaches the receiver (i.e. destination) can issue phase control messages to the whole group of relay stations (paragraph 0136).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the teachings of Tamaki in view of Wiedeman to use broadcast message containing addresses as taught by Larsson in order to pinpoint specific relays that are to have their forwarding adjusted as disclosed by Larsson.

Regarding claim 11. Tamaki teaches an intermediate node (13,14) comprising

a processing unit (87) for processing an intermediate signal (41,51) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121); and

a receiving unit (91-95) for receiving the intermediate signal (41,51) corresponding with a source signal (21,22) transmitted by a source node (ii) to a destination node (12) and for receiving a control signal from the destination node (12) for adjusting the processing unit (87) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121);

which destination node (12) is arranged to receive a first destination signal (31) corresponding with the source signal (21,22) and having followed a first signal route comprising the intermediate node (13,14) and is arranged to receive a second destination signal (32) corresponding with the source signal (21,22) and having followed a different second signal route, with at least one signal route being a wireless signal route, and which destination node (12) is arranged to process the first and second destination signal (31,32) and is arranged to correlate the first and second destination signal (31,32) (abstract, paragraphs 0002, 0014, 0016, 0017, 0019, 0027, 0049, 0052, 0055-0060, 0064, 0065,0072-0090, 0105, 0109, 0120, 0121) and is arranged to, in response to a correlation result, transmit the control signal to the intermediate node (13,14).

According to Applicants (see paper dated 6/23/2010) Tamaki does not teach correlating the first and second destination signal with each other and in dependence of a correlation result, adjusting a process for processing a signal at a node such that transmission of a future source signal is improved.

The Examiner notes that Tamaki does teach a wireless transmission repeater system that uses correlation matrix (paragraphs 0045, 0051, 0058, 0064, 0072, 0073, 0086, 0087, 0090, 0091, 0094, 0101, 0104, 0121) to obtain estimates of the propagation path from the transmitter to the repeater and a propagation path from the repeater to the receiver independently (paragraphs 0017, 0019).

Wiedeman also teaches a wireless transmission repeater system (title, abstract) wherein the destination node includes circuitry for correlating multiple transmission

signals received via different propagation paths (col. 7 lines 50-62, col. 8 lines 32-67, col. 12 lines 41-65, col. 15 lines 40-67) which is used to control future transmissions along each communication path (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the destination node as taught by Tamaki to include circuitry as taught by Wiedeman in order to correlate multiple transmission signals received via different propagation paths so that future transmission along each path may be controlled as disclosed by Wiedeman (col. 1 lines 5-12, col. 2 lines 43-47, col. 3 lines 7-10, col. 3 lines 29-41, col. 5 line 57 - col. 6 line14, col. 12 lines 17-52) which ultimately provides for an extremely energy efficient system as disclosed by Wiedeman (col. 16 lines 1-22).

Tamaki in view of Wiedeman do not explicitly show the destination node is arranged to, in response to a correlation result, transmit the control signal to the intermediate node (13,14).

Larsson also teaches a method and system for wireless communication networks using relaying (title, abstract). Larsson teaches the destination node (see 220 in figures 5a and 5b) transmits a control signal to relay nodes (see dashed lines in figures 5a and 5b) and can also transmit control signal to source node (see 210 in figures 5a and 5b) in order to inform relay stations to adapt/adjust its forwarding (paragraphs 0041, 0054, 0058-0059, 0060-0061, 0081, 0088, 0091, 0094-0095, 0102, 0110, 0114, 0118, 0119, 0121, 0128-0132). Larsson discloses that the receiving station (i.e. destination) is

preferably used to inform relay stations since the receiving station has information on momentary effective SNR (paragraphs 0041, 0124). Larsson further teaches using fields in the control signal to pinpoint specific relays that should be incorporated, or is only allowed to be used, or must excluded or any combination thereof (paragraph 0126). Larsson further discloses that the receiving station (i.e. destination) is used to trigger changes in communication parameters (paragraph 0127) when it notices weakening SNR due to movement of the mobile. Larsson teaches the receiver (i.e. destination) can issue phase control messages to the whole group of relay stations (paragraph 0136).

It would have been obvious for any one of ordinary skill in the art at the time of invention to modify the teachings of Tamaki in view of Wiedeman to use control loops as taught by Larsson in order to allow the receiving station (i.e. destination node) the ability to inform/trigger relay stations (i.e. intermediate nodes) to adapt/adjust its forwarding as disclosed by Larsson.

Response to Arguments

3. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Thursday, 6:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kent Chang, can be reached at (571) 272-7667. The central facsimile phone number for this group is **571-273-8300**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Centralized Delivery Policy: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the central fax number **(571-273-8300).**

/Barry W Taylor/

Primary Examiner, Art Unit 2617